Claims

1.   An apparatus for detecting performance, availability and content deviations in enterprise software applications, comprising:

a plurality of data collectors for intercepting messages exchanged between independent services in an enterprise software application; and

an analyzer for determining a baseline for said enterprise software application and for detecting deviations from said baseline.

2.   The apparatus of Claim 1, further comprising:
a graphical user interface (GUI) for displaying deviations from said baseline in said enterprise software application.

3.   The apparatus of Claim 2, said analyzer comprising:

a collector manager for controlling said plurality of data collectors;

a correlation engine (CE) for correlating streams of said messages to a transaction;

a statistical processor for collecting real-time statistics on entities within said enterprise software application;

a baseliner for determining at least said baseline, wherein said baseline represents a normal behavior of said entities within said enterprise software application;

a fault prediction and detection engine (FPDE) for performing an early detection of deviations from said baseline in said enterprise software application; and

a presentation and alerts engine for generating reports and alerts for display on said GUI.

4.   The apparatus of Claim 3, said analyzer further comprising:

an analytic processor for analyzing overall activity of said transactions of said enterprise software application.

5.   The apparatus of Claim 3, said analyzer further comprising:

a root cause analyzer (RCA) for automatically providing a detailed analysis of a

root cause of each fault detected by said FPDE.

6.   The apparatus of Claim 3, wherein said data collectors capture messages transmitted using communication protocols comprising any of:

a simple object access protocol (SOAP);

a hypertext transfer protocol (HTTP);

an extensible markup language (XML);

a Microsoft message queuing (MSMQ);and

a Java message service (JMS).

7.   The apparatus of Claim 3, said FPDE performing early detection of any of:

operation faults (bugs) in said enterprise software application; and

decrement in performance of said user enterprise software application.

8.   The apparatus of Claim 7, wherein operation faults are detected during production of said enterprise software application.

9.   The apparatus of Claim 1, said data collectors receiving said messages through an application programming interface (API).

10.   The apparatus of Claim 1, wherein said baseline is determined based on any:

content of said messages;

context of said messages; and

real-time statistics.

5   11.   The apparatus of Claim 10, wherein said real-time statistics comprise
           any of:

           throughput measurements; and

           average response time measurements of business transactions.

10   12.   A method for detecting performance, availability and content deviations
           in enterprise software applications, comprising the steps of:

           intercepting messages exchanged between independent services in an
           enterprise software application;

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           correlating said messages into a transaction;

           determining a baseline for said enterprise software application; and

20   detecting deviations from said baseline.

     13.   The method of Claim 12, said step of detecting deviations further
           comprising the step of:
           performing an early detection of any of operation faults (bugs) in said
25   enterprise software application and decrement in performance of said
           enterprise software application.

     14.   The method of Claim 13, further comprising the step of:
           detecting said operation faults during production of said enterprise
30   software application.

     15.   The method of Claim 12, further comprising the step of:
           displaying information about any of said operation faults and
           performance evaluation to a user.

16. The method of Claim 15, wherein said information is displayed to said user through a series of graphical user interface (GUI) views.

5   17. The method of Claim 12, said step of intercepting messages further comprising the step of:
     receiving said messages through an application programming interface (API).

10   18. The method of Claim 12, said step of correlating said messages further comprising the steps of:

     assembling messages related to an instance of a transaction;

15   determining an execution flow graph of a transaction instance;

     mapping said execution flow graph with similar transaction instances; and

20   grouping said transaction instances to create an execution path that identifies said transaction.

     19. The method of Claim 12, wherein said baseline is determined based on any of content of said messages, context of said messages, and real-
25   time statistics.

     20. The method of Claim 19, wherein said real-time statistics comprise any of: throughput measurements, average response time measurements.

30   21. The method of Claim 12, said method further comprising the step of:

     performing a root cause analysis to detect a root cause for detected baseline deviations.

22. A computer software product readable by a machine, tangibly embodying a program of instructions executable by said machine to implement a process for detecting performance, availability, and content deviations in enterprise software applications, the method comprising the steps of:

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intercepting messages exchanged between independent services of an enterprise software application;

correlating said messages into at least a business transaction;

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determining a baseline for said enterprise software application; and

detecting deviations from said baseline.

15   23. The computer software product of Claim 22, said step of detecting said deviations further comprises the step of:

performing an early detection of any of operation faults (bugs) in said enterprise software application, decrement in performance of said
20   enterprise software application.

24. The computer software product of Claim 22, further comprising the step of:
displaying information about any of operation faults and performance
25   evaluation to a user.

25. The computer software product of Claim 24, wherein said information is displayed to said user through a series of graphical user interface (GUI) views.

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26. The computer software product of Claim 22, said step of correlating said messages further comprising the steps of:

assembling messages related to an instance of a transaction;

determining an execution flow graph of a transaction instance;

mapping said execution flow graph with similar transaction instances; and

grouping said transaction instances to create an execution path that identifies said transaction.

27. The computer software product of Claim 22, wherein said baseline is determined based on any of content of said messages, context of said messages, and real-time statistics.

28. The computer software product of Claim 27, wherein said real-time statistics comprise: throughput measurements, and average response time measurements.

29. The computer software product of Claim 22, said method further comprising the step of:

performing a root cause analysis to detect a root cause for detected baseline deviations.